LEAF BAGGER

Applicant claims priority of Provisional S.N. 60/461834, filed April 10, 2003.

BACKGROUND OF THE INVENTION

This invention relates, in general, to a support frame, and, in particular, to an improved support frame for use with leaf bags or the like.

DESCRIPTION OF THE PRIOR ART

In the prior art, various types of bag retainers have been proposed. For example, U.S. Patent No. 6,511,110 to **Roye** discloses a bag retainer with a plurality of legs, which are joined to a bag-retaining frame having retainers to hold a bag in the frame.

U.S. Patent No. 6,076,782 to **Alderman** discloses a bag retainer with a plurality of legs joined to a bag-retaining frame having retainers to hold a bag in the frame.

U.S. Patent No. 3,638,888 to **Ross** discloses a foldable bag frame with a lower and upper support ring and supports between the support rings.

U.S. Patent No. 5,411,229 to **Hoefkes** discloses a bag holder with two frames that are hinged together to support a bag therebetween.

In contrast to the prior art references, the present invention is a support apparatus for holding a bag in an open condition having a side frame which snaps onto an upper bag retention frame and retainers securing the bag to the retention frame.

SUMMARY OF THE INVENTION

The present invention is a support apparatus for holding a bag in an open condition. The support has a side frame which snaps onto an upper bag retention frame and retainers securing the bag to the retention frame.

It is an object of the present invention to provide a new and improved support apparatus for holding a bag in an open condition.

It is an object of the present invention to provide a new and improved support apparatus that is easy to use.

It is an object of the present invention to provide a new and improved support apparatus that is lightweight.

These and other objects and advantages of the present invention will be fully apparent from the following description, when taken in connection with the annexed drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other advantages and features of the present invention will be better understood from the following detailed description of the preferred embodiments of the present invention, which is provided in connection with the accompanying drawings. The various features of the drawings may not be to scale. Included in the drawing are the following figures:

FIG. 1 is an exploded perspective view of the present invention.

FIG. 2 is a top view of the retention ring of the present invention.

FIG. 2a is a side view of the retention ring of the present invention.

FIG. 3 is a perspective view of one of the retainers of the present invention.

FIG. 4 is a side view of one of the connectors of the present invention.

FIG. 5 is a side view of another connector of the present invention.

FIGS. 6 – 8 are front views showing the present invention in different stages.

FIG. 9 is a view of the present invention with a bag attached.

FIG. 10 is a partial view of one of the connectors of the present invention engaged with one of the side members.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the prior art, there are many bag holders, but these prior art bag holders have numerous deficiencies. For example, prior art bag holders may be inconvenient to erect, may collapse at inopportune times and may be unstable when the bag is filled.

Referring to the drawings in greater detail, **FIG. 1** illustrates the present invention **10** in an upright position having vertical side members **11a** and **11b**, at least one hinge **12**, upper retention member **20**, at least one retainer **30** and connectors **40** and **50**. While **FIG. 1** illustrates the present invention **10** having two side members **11a** and **11b** whereby the present invention **10** is substantially trapezoidal in shape, any shape or number of side members could be utilized without departing from the scope of the present invention **10**.

Side frames **11a** and **11b** are elongated members having at least two ends wherein side members **11a** and **11b** are, preferably, tubular in form and substantially U-shaped. In this preferred embodiment, it is to be understood that the base of the "U" rests on a surface such as the ground, thereby adding greater stability to the present invention **10** since its base is broad. In other embodiments, side members **11a** and **11b** can be any shape well known within the art and can be constructed using a variety of materials such as but not limited to metal, plastic, fiberglass or the like.

Side members **11a** and **11b** are attached to each other by at least one hinge **12** which enable side members **11a** and **11b** to pivot around a vertical axis. This allows a user to open or close the present invention **10** for use or storage. Hinge **12** is any conventional hinge well known in the art. It should be appreciated when the user closes the present invention **10**, side members **11a** and **11b** lie on top of each other.

Connectors **40** and **50** (see also **FIGS. 4, 5**) are attached to the upper end or tip of side members **11a** and **11b** by any means well known within the art. For example, side members **11a** and **11b** are elongated, hollow members and connectors **40** and **50** could be inserted within the hollow cavity (see **FIG. 10**). While connectors **40** and **50** are shown attached to the tips of side members **11a** and **11b** by any means well known in the art, it would not be a departure from the scope of the present invention **10** to utilize other variations or embodiments such as making connectors **40** and **50** and side members **11a** and **11b** of one piece, unitary construction.

Retention ring **20** attaches to connectors **40, 50** by means of a snap connection. The outer diameter of the ring **20** is substantially the same dimension or slightly less than the dimension of

the dimension of the slot **G** (see **FIGS. 4, 5**). This allows the triangular ring **20** to be forced into the slot **G** to retain the ring on the connectors **40, 50**. When the present invention **10** is in use, it is to be understood that at least a portion of the retention ring **20** rests on or within connector **50** stabilizing the retention ring **20** and substantially holding the retention ring **20** in place limiting its movement. The only substantial difference between connector **40** and connector **50** is the slot **G** in connector **40** extends horizontally, and the slot **G** in connector **50** extends vertically. The present invention **10** also features retainer **30** which will be described later in greater detail.

FIGS. 2 and **2a** illustrates the retention ring **20** in greater detail. Retention ring **20** is substantially triangular in shape. The retention ring **20** can be constructed of zinc coated steel wire. The retention ring **20** has, preferably, four offset portions **21a, 21b** substantially corresponding to the locations of connectors **40** and **50**. The offset portions **21a, 21b** are offset from the longitudinal axis of the sides of the ring **20** by a predetermined distance as shown in **FIG. 2a**. The offsets **21b** will be snapped into the horizontal slots **G** in connectors **40**, and then the ring **20** will be rotated down until the offsets **21a** snap into the vertical slots **G** in connectors **50**.

FIG. 3 illustrates the retainer **30** in greater detail. The retainer **30** is an elongated, concave member having two ends. The internal diameter of the concave portion of retainer **30** fits snugly over the straight sections of the retention ring **20**. When a bag is interposed between the ring **20** and the retainers **30**, and retainers **30** are forced onto the ring **20** the bag **90** (see **FIG. 9**) will be held securely to the retention ring **20**. Retainers **30** can be made from various materials such as, but not limited to, extruded plastic or high-density polyethylene.

FIG. 4 is a detailed view of connector **40**. As described above, connectors **40** attach to side frame **11b** by any means well known within the art, or connector **40** and side frame **11b** could be a one piece, unitary construction. In the preferred embodiment, the bottom portion **41** of connectors **40** fits within the ends of side frame **11b** (see **FIG. 10**). Protrusion **41** on the connector **40** is substantially circular in shape and its diameter is about the same as the inner diameter of side frame **11b**. While the preferred embodiment of the protrusion **41** is described as being substantially circular in shape, other variations and embodiments can exist wherein protrusion **41** can be any shape well known within the art as long as the shape of the protrusion **41** is substantially similar to the inside shape of the side frame **11b**.

Connector **40** features a substantially horizontal groove **G**, wherein the size of the groove is similar to the outer diameter of the offset point **21b** of the retention ring **20**. Offset point **21b** attaches to connector **40** by any means well known in the art. In the preferred embodiment, connector **40** is releasably attached to retention ring **20**, however retention ring **20** can be permanently attached to connector **40** during the manufacture of the present invention **10**, as long as the ring is allowed to pivot with respect to the connector. Either embodiment must allow the retention ring **20** to rotate around the axis created by the connection of the retention ring **20** to connector **40**.

FIG. 5 is a detailed view of connector **50**. As described above, connector **50** attaches to side frame **11a** in the same manner as connector **40** and side frame **11b**. Protrusion **51** on the connector **50** is substantially circular in shape and its diameter is about the same as the inner diameter of the side frame **11a**. While the preferred embodiment of the protrusion **50** is described

as being substantially circular in shape, other variations and embodiments can exist wherein protrusion **51** can be any shape well known within the art as long as the shape of the protrusion is substantially similar to the inside shape of the side frame **11a**.

Connector **50** features a groove **G** that is substantially vertical. The size of the groove is similar to the outer diameter of the offset point **21a** of the retention ring **20**. As the retention ring **20** rotates in a clockwise direction, offset point **21a** will come to rest within groove **G** of the connector **50**. Since connectors **40** and **50** engage the retention ring **20** at the offset points **21a** and **21b**, no substantial movement occurs along the length of the retention ring **20** and this system creates a rigid lightweight assembly wherein the retention ring **20** is securely attached to side members **11a** and **11b**.

FIGS. 6 – 8 illustrate views of the present invention **10** at various stages of assembly. To erect the present invention **10** for use, side members **11a** and **11b** are opened to a first angle as shown in **FIG 8**. Retention ring **20**, by means of its connection to side frame **11a** via connector **40**, rotates in a clockwise direction as shown in **FIGS 7, 8** until retention ring **20** engages the vertical groove **G** in connector **50**, as described above. Once the offset points **21a** of the retention ring **20** engage the vertical grooves in connectors **50**, the retention ring **20** is secured in place as shown in **FIG. 6**. Since connectors **40** and **50** engage the retention ring **20** at the offset points **21a, 21b**, no substantial movement occurs along the length of the retention ring **20** and this system creates a rigid lightweight assembly wherein the retention ring **20** is securely attached to side members **11a** and **11b**.

FIG. 9 shows a bag attached in the present invention **10**. To use the present invention **10**, an open bag **90** is inserted through the top of the retention frame **20.** It is to be understood that the present invention **10** is to be used with bags having an outer circumference slightly greater than the perimeter of the retention frame **20**. A predetermined length of the bag **90** is pulled over the retention frame **20**, preferably two inches. The retainers **30** are placed over the retention frame **20** securing the bag **90** to the retention frame **20**.

The bag **90** is now secured to the present invention **10** and the bag **90** can easily be filled by dropping items through the opening in the bag **90**. Alternatively, the present invention **10** can be tipped forward so that one of the side frames **11a, 11b** is on the ground. In this position, the shape of the side frames **11a** and **11b** and retention ring **20** ensures that the present invention **10** remains as close to the ground as possible. Items can be easily moved into the horizontal bag **90** though the wide opening defined by the retention ring **20**. When the bag **90** is full, the present invention **10** can be easily moved into its upright position.

In the upright position, as shown in **FIG. 9**, the shape and angles of the side members **11a** and **11b** enable the bag **90** to be filled completely without touching the side members **11a** and **11b**. To remove the bag **90** from the present invention **10**, retainers **30** are removed and the top of the bag **90** is tied in a conventional manner. The user then grasps the retention ring **20** or other elements of the present invention **10** and lifts the present invention **10** over the bag **90**. This allows the user to move the present invention **10** and not the bag **90** since the bag **90** could be relatively heavy due to the items placed within.

Although the Leaf Bagger and the method of using the same according to the present invention has been described in the foregoing specification with considerable details, it is to be understood that modifications may be made to the invention which do not exceed the scope of the appended claims and modified forms of the present invention done by others skilled in the art to which the invention pertains will be considered infringements of this invention when those modified forms fall within the claimed scope of this invention.

What I claim my invention is: